J. Harris.

Car-Axle Box.

No. 71873 Patented Dec. 10, 1867

Fig. 3

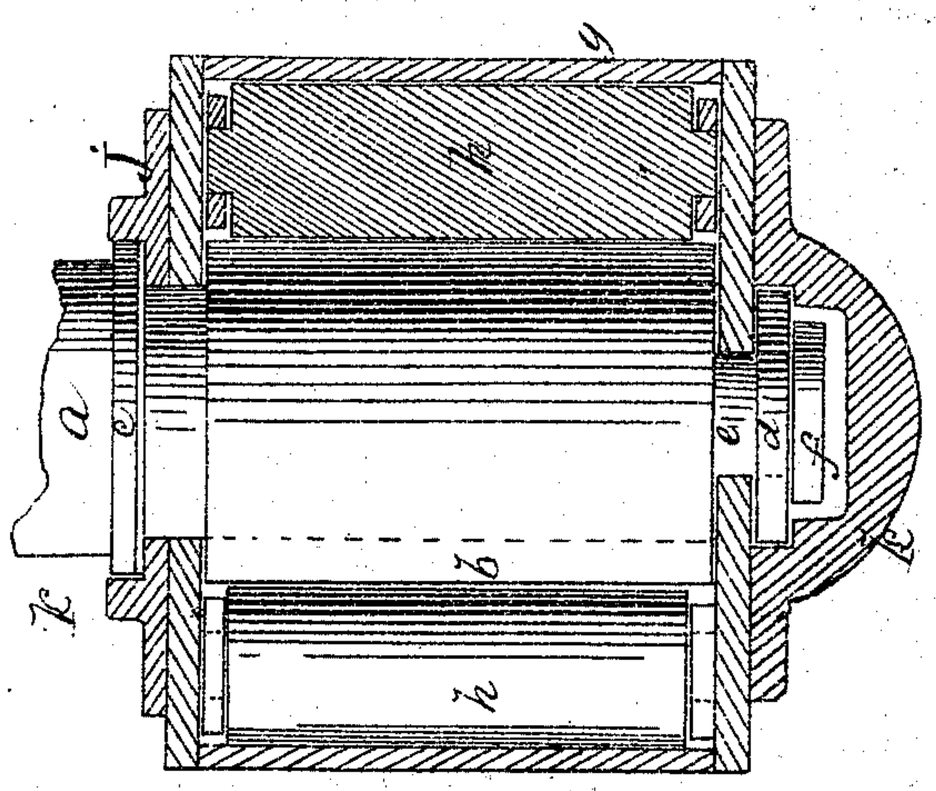


Fig. 5

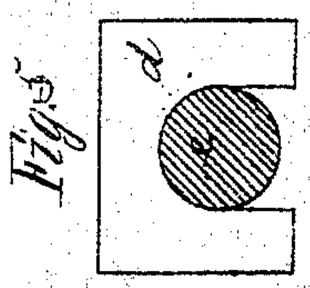


Fig. 2

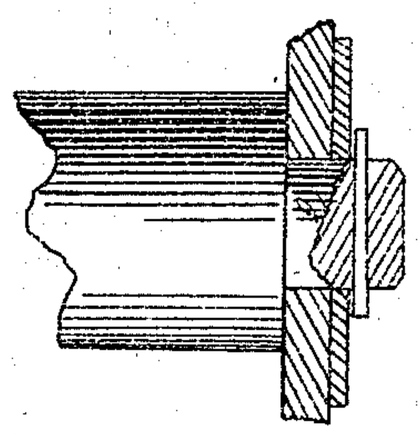


Fig. 4

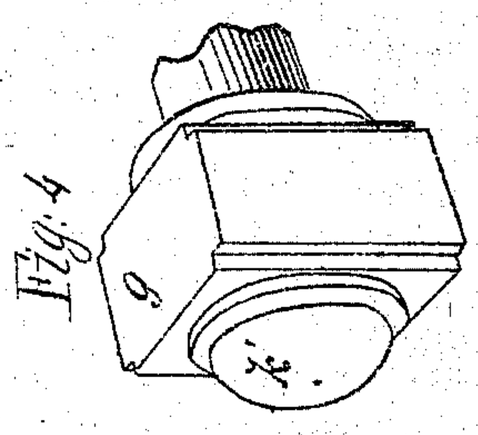
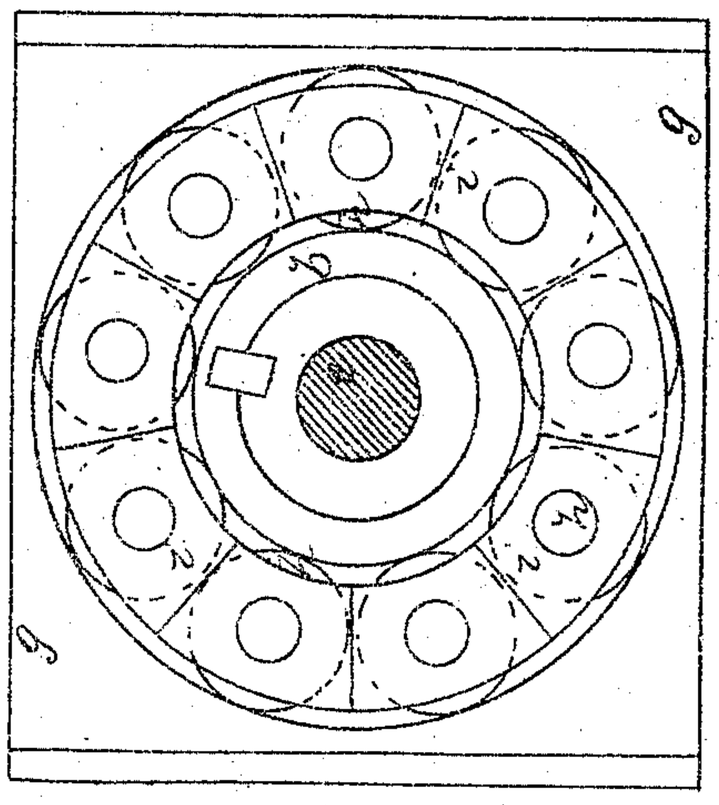


Fig. 1



Witnesses

Fredk. D. Greenleaf

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JOSEPH HARRIS, OF DORCHESTER, MASSACHUSETTS.

Letters Patent No. 71,873, *dated December* 10, 1867.

IMPROVEMENT IN CAR-AXLE BOXES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOSEPH HARRIS, of Dorchester, in the county of Norfolk, and State of Massachusetts, have invented certain new and useful Improvements in Car-Axle Boxes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon. With reference to the drawings—

Figure 1 is a sectional view, the section cutting transversely to the axle.

Figure 3 is a sectional view, the section plane cutting in the line of the axle.

Figure 4 is an external perspective view of the box and axle.

Figure 5 is a sectional view of the neck of the axle and the removable exterior shoulder which takes the thrust of the box.

Figure 2 is a view of one of the many modifications which may be made of the exterior shoulder and means for holding it.

Like letters refer to the same or corresponding parts in all the views.

The car-axle *a* is furnished with the supplemental or exterior journal *b* within the box or case, and a shoulder, *c*, outside of the box, and the removable shoulder *d*, also outside of the box, at the opposite end. The journal or end of the axle is necked down at *e*, to receive the removable collar or shoulder *d*, leaving the fast shoulder *f* as a support or back for shoulder *d*. The axle-box case *g* is fitted to play in the usual jaws, or otherwise connected to the car or truck-frame, and has a circular chamber. (See fig. 1.) This circular chamber encloses a series of rollers, *h*. The rollers *h* have journals upon their ends, and to these journals is fitted a series of boxes or guides, *i*. These guides *i* have faces which are radial to the axle, and the boxes or guides are of such length as to keep the peripheries of the rolls from contact with each other, they (the guides) bearing against each other's radial faces, where they form a series of radial detached joints. The axle extends entirely through the box or case *g* by its necked portion *e*. The exterior or supplemental journal *b* bears on the series of rolls within, while they in turn bear without on the inner surface of the circular chamber. The supplemental journal *b* may be loose on the journal, but had better be fast, so as to insure its turning with the axle and not upon it. A recess is formed in a seat, *j*, and a washer, *k*, is interposed between it and the shoulder *e*. The shoulder *d* is open on the side, as shown in fig. 5, so that it can be applied by slipping on to the neck *c* inside of the shoulder *f*. A casing, *k'*, covers it and the end of the axle. The end-thrust of the box comes upon shoulder *c*, the washer and seat *j* in one direction, and upon the shoulders *d* and *f*, and the face of the box in the opposite direction.

The parts may be made of such materials as are usually employed in the art.

Having described my improvement, what I claim as my invention, and desire to secure by Letters Patent, is as follows:

1. I claim the roller-guides *i*, with detached radial joints, substantially as described.

2. In combination with the system of rollers and box *g*, I claim the construction of the axle, with its extension *e* and shoulder *d*, as and for the purpose set forth.

JOSEPH HARRIS.

Witnesses:

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D. N. B. COFFIN, Jr.